

M·A·P·S *Digest*

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A LOVE OF FOSSILS BRINGS US TOGETHER

October

Meeting and Field Trip

The October MAPS meeting will be held in conjunction with the fall field trip to Klein Quarry in Coralville, Iowa.

This is a lock in quarry; that is, the gate is locked behind us and no one can enter or leave until a group is let out. Meet and register at the gate at 8:45 am; enter at 9:00am. One group will go out about noon, and others can enter then if they are there when the first group goes out. The second group will leave the quarry mid-afternoon.

This is a hard rock quarry. All participants should have the appropriate safety apparel and equipment: hard hats, safety glasses, sturdy shoes, rock hammers, chisels, etc.

Find middle Devonian fossils and minerals from the Cedar Valley Formation, including trilobites, crinoids, corals, brachs, calcite, millerite, etc.

Bring your own lunch and water. MAPS Board meeting following lunch.

Directions to Klein Quarry: From I-80, take exit 240 oral Ridge Ave.), go south to Hwy 6 (at the T intersection & light), go right .4 mile to Deer Creek Road, then go left .6 mile on Deer Creek Rd. to the quarry entrance on the right.

There is a chance that eh Klein quarry will be closed. The backup plan is to go to the Conklin Quarry, which is also in Coralville. If planning to attend please contact a board member the week before the trip to verify which site is to be visited.

Directions to the Conklin Quarry: From I-80, take exit 242 (1st Ave.) and go north. The quarry gate is just north of I-80 on the east side of 1st Ave., across from the Hampton Inn.

November MAPS Meeting – Nov. 12, 2005

The November Maps meeting will be held in Room 125 of Trowbridge Hall at the University of Iowa on November 12. The regular business meeting will run from 1-2 pm followed by a program on the Price Creek Amana Devonian Fossil Beds presented by James Preslicka. One of our very knowledgeable young members from Iowa City. You may be familiar with him from his help at the EXPO auction articles in earlier EXPO Digests, or as a resource on the Iowa City field trips.

January MAPS Meeting – Jan. 14, 2006

Room 125 Trowbridge Hall at the University of Iowa, 1:00 pm. Paleontologist Hallie Sims will present an overview of her work on the Permian-Triassic boundary in South Africa.

February MAPS Meeting – Feb. 11, 2006

Room 125 of Trowbridge Hall, University of Iowa, 1:00 pm. Program TBD.

April 7,8 & 9 2006 – MAPS EXPO

The National Fossil Exposition
Western Hall, Western Illinois University,
Macomb, IL. Theme: Plants
Keynote speaker: Dr. Conrad Labandiera

DIGEST CONTRIBUTIONS WANTED

Articles and other materials of paleontological interested are needed for future issues of the Digest. Soft copy in Microsoft Word is preferred. Please email materials if possible to either:

fossilnautiloid@aol.com or cdcozart@aol.com

Hard copy may be mailed to:

John Catalani
3405 High Trail
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ABOUT THE COVER

Photo by C. Cozart

This month's cover photo is Petalodus sp., shark tooth, Bond Fm., Pennsylvanian, Lone Star Quarry, Oglesby, IL.

Public Lands--Public Fossils?

By John A. Catalani

Fossilnautiloid@aol.com

The tall, white-haired man approached the attendant who was sweeping the sidewalk in front of the theater.

"We don't open 'til one o'clock."

"The sun is shining brightly," said the white-haired man.

Looking up, the attendant responded, "But rain is expected later."

"I have no umbrella," answered the white-haired man.

With his head, the attendant made a barely perceptible nod toward the ticket booth and continued sweeping down the sidewalk to the end of the theater as if the encounter had never occurred.

The white-haired man entered the booth and closed the door behind him. There, on the counter, was a tape player and a large envelope.

He jabbed the button that brought the tape player to life while simultaneously emptying the envelope on the counter. A picture fell out.

"Good morning, Mr. Phelps. The dinosaur you are looking at is called "Sue". She is symptomatic of the ongoing concern and controversy over the collection of fossils on public lands. Your mission, should you choose to accept it, is to ensure that all three major factions, professional, amateur, commercial, agree on a fair set of guidelines governing collecting on public lands. As always, should you or..."

Phelps suddenly stabbed the tape player into silence. "This is more than even the IM Force can accomplish," he murmured as, leaving the picture behind, he exited the booth. Smoke began emanating from the tape player.

OK, so that's a bit melodramatic. But doesn't it seem to you that trying to get everyone to agree on consistent and fair collecting strategies on public lands is a "mission impossible"? Now, I'm not going to solve this decades-old problem in this essay but I will try to logically analyze the problem.

Each segment of the collecting community has their own concerns and all have merit. Professionals want scientifically significant specimens available for research, which means the fossils will be deposited in an established repository such as a museum or university. I agree. Amateur collectors want the opportunity to pursue the avocation they love without fear of potentially breaking the law. Obviously, I agree with this. Commercial collectors want to be able to collect specimens and prepare them for sale. I agree with this also but realize that restraint in the form of a permit system is needed when it comes to vertebrate fossils on our public lands. The question is this, "Can all groups peacefully coexist?" Wouldn't it be a relief if a document could be written that addressed this problem in a fair manner using input from all types of collectors with a minimum of governmental interference?

Well, believe it or not, such a document does exist and has for many years. It was commissioned by the National Academy of Sciences and is entitled *Paleontological Collecting* (National Academy Press, 1987). The document, known as the Academy Report, was developed by a committee of 13 individuals representing a wide range of backgrounds and experiences involving most segments of the collecting community as well as the government. In addition, input was solicited from a number of other individuals and groups to insure that the widest possible range of points-of-view would be represented. The committee made 10 recommendations that stressed, among other things, uniformity of policies on all federal and state lands, regulation of commercial collecting through a permit system, education programs to inform all collectors of the "research needs of professional paleontologists", and the establishment of a National Paleontological Advisory Committee that would "identify and evaluate potential paleontological localities of national significance...for designation as National Natural Landmarks". One of the three types of collecting established in the recommendations, reconnaissance collecting, would not require

prior notice to managers nor a permit and thus allows surface collecting, the most common technique employed by most amateur and casual collectors, on public lands. National parks would, wisely, remain off-limits to collecting except by qualified scientists.

So, one would think that, with such a document having been around for so many years, all problems would have been ironed out and the ten recommendations would now be the guidelines used in the administration of public lands. This is obviously and unfortunately not the case. Many vertebrate paleontologists (and make no mistake about it, vertebrate fossils are at the heart of this dispute) object to private and commercial collecting on public lands for several reasons. One involves the ownership of these fossils. If collected by an amateur, the fossil will, it is believed, never be seen by a professional and never reach a museum. Even though this is often the case, one must ask oneself, are all vertebrate fossils that significant and would it then be more desirable to leave the fossil in the field exposed to the destructive forces of weathering? In my opinion, the short time required for a fossil to completely weather and erode is the major disadvantage in any policy that eliminates or severely curtails the collection of vertebrates, or any fossil, on public lands. There are simply not enough personnel, be they professionals or land managers, to periodically survey all public lands in search of exposed fossils. Amateurs, however, far outnumber such personnel and collect far more regularly than most professionals--the amateur does it for personal satisfaction while the professional's time is often occupied with teaching schedules and seemingly endless administrative work as well as depending on university or museum funding to carry out their fieldwork. And with such dedication, the amateur is very familiar with the geology of their localities. Therefore, without amateur and commercial involvement many specimens will never be seen or collected and in a short time they will be lost forever. Even if a significant fossil is collected by an amateur and stuck in a shoe box in the basement (I know, the ultimate amateur cliché), there is still a much better chance of the specimen eventually making it to a museum or into the hands of a professional than if that same fossil were left in the field uncollected. After all, a fossil left to weather

into obscurity is lost to everyone--paleontology is not a spectator sport.

Another complaint from some professionals is that, given the high prices often charged by dealers, most professionals and museums cannot afford to purchase fossils. This may be true for spectacular or rare specimens, but fossils-for-profit ventures also supply more common fossils to museums and schools that otherwise would not be able to acquire real fossils for display or teaching. At my school, before I was hired, the entire rock, mineral, and fossil teaching collections were purchased from supply firms such as Ward's. It seems to me that museums and schools would suffer most if collecting were eliminated on public lands not to mention the complete loss of uncollected specimens. And there is nothing like having a real fossil, as opposed to a reproduction, in your hands--my students can attest to that. An ample supply of available fossils also allows trade with other countries to fill in gaps with species that those institutions in both countries lack. Yes, a dinosaur skeleton would cost a museum hundreds of thousands of dollars. Consider, however, the cost if that same museum were to outfit an expedition to locate, excavate, prepare, and mount a skeleton for display with, of course, no guarantee of success in the first place. When the time and effort expended by the commercial collector in recovery and preparation is taken into consideration, these prices are more reasonable than they first appear. Besides, as collecting continues and the number of specimens available increases prices usually fall--you know, supply and demand.

Much of the criticism of commercial collectors is based on the activities of a few unscrupulous collectors. But each segment of the collecting community contains a variety of personalities, so questionable activities are not limited to commercial collectors. Also, you are not going to prevent an unscrupulous collector from illegally collecting fossils on public lands, even national parks, with laws that, because of such large areas and small number of personnel, are almost impossible to monitor and enforce. The fear is that opening public lands to collecting will usher in a fossil "gold rush" and decimate these lands of fossils. Hopefully, a monitored permit system and some self-

regulation by conscientious commercial collectors would prevent this.

And to those of us that think we are safe from any vertebrate laws because we collect only invertebrates we need a reality check. Consider that one of the most ubiquitous microfossil in Paleozoic rocks is the conodont--now interpreted to be the fossilized hard parts of primitive vertebrates. You could be collecting what you think are only slabs covered by shells and, in reality, be in violation of vertebrate collecting laws. Apparently, one professional geologist has been prevented by a federal land manager from collecting rocks because they MAY contain conodonts.

One of the biggest stumbling blocks to fair fossil policies occurs when uninformed or misinformed officials, legislators, and the public equate fossils with antiquities. Human artifacts are totally different and are usually found completely removed from fossils. True, spear points and arrowheads have been found embedded in mammoth or bison remains and human fossils do exist, but these are relatively rare occurrences. Human artifacts, such as tools and figurines, are manufactured whereas fossils are natural remains of once-living organisms. Artifacts should be protected since they represent more than just scientific evidence of human activity. They represent a tribe's or people's cultural heritage and thus transcend scientific value. Therefore, it is imperative that paleontology and fossils be separated from archaeology and artifacts and not to impose similar restrictions on collecting. This is just one instance where a concerted effort to educate all involved (including the public) can result in fair and reasonable collecting laws.

Another problem with any collecting laws that limit the collecting ability of any segment of the paleontological community is defining such terms as "professional" and "amateur". The line between professional and amateur is not as sharp as it once was. If you define a professional as one who makes a full-time living from paleontology, then many Ph.D.s must be classified as amateurs since they are no longer employed as paleontologists. And some "amateurs" without appropriate degrees have become leading experts in their fields (the late Harrell Strimple, after whom the Paleontological Society named their amateur

award, immediately comes to mind). Therefore, in formulating laws governing who can and who cannot collect on public lands, more than just what degree one has or where one is employed must be considered.

Another fundamental problem is evaluating fossils for their significance--who decides which fossils are "significant" and which are not? Are all vertebrate fossils (e.g. shark teeth) "significant"? Are all oreodont skulls, of which there must be thousands in museums and universities, more "significant" than, say, a rare nautiloid just because the oreodont is a vertebrate? In my biased opinion (are there any other types of opinions?), virtually any nautiloid is more "scientifically significant" than an oreodont skull since nautiloids are my main research interest. Blanket statements in federal or state laws are meaningless. Each site is unique and "significant" localities and/or fossils must be identified by a committee on a case-by-case basis.

This is a tough issue; an emotional issue; an issue that cannot be settled to everyone's complete satisfaction. If, as professionals, you are concerned about the loss of scientifically significant specimens, get involved with local clubs and educate the amateur and commercial collectors since they represent a resource that professionals, in this age of dwindling budgets and jobs, need to take advantage of. If, as commercial collectors, you want to continue quarrying for fossils, contact local professionals and/or museums and invite them out to the dig site to evaluate the specimens and surrounding rock environment. If, as amateurs, you want to continue to engage in the "hobby" you enjoy so much, contact local professionals and share your knowledge and specimens with them. If all parties involved would compromise and cooperate instead of posturing for their own special interests, fair and consistent guidelines could be established so that fossil collecting can remain an enjoyable and scientifically productive activity. It seems obvious to me that only through education, cooperation, and compromise can we insure that the science of paleontology will remain viable and significant well into the 21st century. (Reprinted with modifications from *American Paleontologist* August 1997 courtesy of the Paleontological Research Institution. All rights reserved.)

Book Reviews

Dinosaurs of Italy: An All Italian Jurassic Park

The following book from Indian University Press is now available. You may find it at a bookstore or by calling 1-800-842-6796. Following is a description from the press release announcing the book.

Dinosaurs of Italy
By Cristiano Dal Sasso and Giuseppe Brillante
232 pages, 65 b&w illus, 6 1/8 x 9 1/4, \$35.00

Bloomington, IN—In the last decade, Italian Mesozoic marine deposits have revealed the unexpected presence of dinosaurs. *Dinosaurs of Italy* is a faithful report of those discoveries. It is an accessible but thorough book, written by Cristiano Dal Sasso, one of the leading dinosaur paleontologists in Italy (with the collaboration of the science writer Giuseppe Brillante).

After introducing the reader to the world of dinosaurs, each successive chapter deals with one finding: from dinosaur footprints (including new sites from southern Italy found in 2000) and the exciting discovery and description of *Scipionyx*, to the Trieste hadrosaurs and the very recent “saltriosaur”. Italian marine and flying reptiles are also described, represented by spectacular specimens such as the large shastasaurid ichthyosaur *Besanosaurus* and the most ancient pterosaur *Eudimorphodon*.

“The enigma of the disappearance of the dinosaurs has fascinated generations of scholars, who have advanced dozens of hypotheses to explain it,” Dal Sasso points out. “But the one given the most credence originated and gained ground right in Italy, in a splendid town in Umbria. Gubbio is renowned throughout the world for its stone houses, towers, and palaces that look onto medieval streets imbued with timeless charm. The feeling of peace and serenity that it inspires in visitors makes it extremely difficult to believe that evidence of an incredible planetary catastrophe exists at this very spot.”

The book, which concludes with speculations about future finds in Italy, includes original drawings as well as pictures of key fossils, including never published detailed photos of *Scipionyx*.

When Sea Monsters Roamed Kansas

The following book from Indian University Press is now available. You may find it at a bookstore or by calling 1-800-842-6796. Following is a description from the press release announcing the book.

Oceans of Kansas
By Michael Everhart
232 pages, 12 color and 82 b&w illus, 7 x 10, \$39.95

“The bright midday sun glinted off the calm waters of the Inland Sea and silhouetted the long, sinuous form of a huge mosasaur lying motionless amid the floating tangle of yellow-green seaweed. Twenty years old and more than thirty feet in length, the adult mosasaur was almost full-grown and was much larger than any of the fish or

sharks that lived in the shallow seaway. A swift and powerful swimmer over short distances, the mosasaur used surprise and the thrust of his muscular tail to outrun his prey with a short burst of speed.”—From Chapter One

Although Kansas is now high and dry, at one time the state, like most of the Midwest, was under water. Until the land finally rose above sea level during the final years of the Late Cretaceous, the area was covered by a succession of oceans whose geologic record is preserved in the sedimentary rock that covers the Great Plains.

Oceans of Kansas: A Natural History of the Western Interior Sea by Michael J. Everhart, tells the story of five million years when giant sharks, marine reptiles called mosasaurs, pteranodons, and birds with teeth flourished in and around this shallow sea. The abundant and well-preserved remains of these prehistoric animals were the source of great excitement in the scientific community of the day when they were first discovered in the 1860s. Two of the best-known fossil hunters of the time, E. D. Cope and O. C. Marsh, competed vigorously to recover the best specimens. During the past 130 years, thousands have been collected and sent to museums around the world.

This beautifully written and illustrated book, which includes an 8-page color insert featuring the art of Dan Varner, tells the fascinating story of their discovery, recreates the animals and the world in which they lived, and presents the fruits of the latest research into the natural history of America's ancient inland sea.

EXPO 2006

Believe it or not, EXPO 2006 is just round the corner. OK, it's still ten or so months away (April 7-9, 2006) but the time goes quickly particularly if you are planning to write an article for the EXPO Edition. The theme for EXPO XXVIII is insects and, as always, the EXPO Edition editor can use all the help you can provide by, first, writing an article and, second, submitting it to him in a timely fashion so that he is able to assemble and determine the layout of the book and get to press in time for EXPO. This year the EXPO Edition editor is Mark Shurilla. He will accept articles by regular mail or by e-mail. Here are his addresses:

Mark Shurilla
11821 West Florist Ave.
Milwaukee, WI 53225

A topic such as insects always generates quite a bit of interest so we assume (yes, we know that joke) that many of you will be interested in writing an article. Mazon Creek alone has enough material to fill a book. This should be a very informative EXPO Edition (as they always are).

In other EXPO XXVIII news, Dr. Conrad Labandeira has agreed to be the speaker. Conrad received his PhD from the University of Chicago and lists among his research interests plant-insect associations in the fossil record, insect paleoecology and the evolution of terrestrial ecosystems, and Early Devonian ecosystems and the origin of arthropod terrestriality. We look forward to his presentation.

The Editors

Remembering Maggie Kahrs

Margaret was an Honorary Member of the Lawrence County, Indiana Rock Club, Inc. and a member of the Midwest Federation of Mineralogical and Geological Societies (MWF) and the American Federation of Mineralogical Societies (AFMS).

She served thirteen years as the Rock Club Chair of the Annual Show/Swap and Assistant Treasurer. She received the Club Rockhound of the Year Award.

Margaret served as the Indiana State Director for the MWF.

She organized and was the first president of the Indiana Society of Paleontology (ISP). She served many years as the ISP secretary/treasurer. The ISP is the first bona fide chapter of the Mid-America Paleontology Society (MAPS).

She was a long time editor of the MAPS Expo Digest. She has received two Presidential Awards from MAPS.

Margaret loved to share her knowledge of fossils with everyone. She worked with 4-H Club Members, Scouts, School Personnel and School Children, Adult Organizations and others.

She was involved with the Falls of the Ohio State Park's Falls Fossil Festival. She presented programs on fossils and answered question from interested public at the Information Tent. She worked with the State Museum on their Fossil-Mineral Activity.

Margaret found three different brachiopod fossils that were un-named. One is named after her. It is *Divachonella kahrsi*.

PERSONAL NOTES ON COLLECTING FOSSILS WITH MARGARET

On one trip, we were as usual hunting fossils with heads down, when Margaret said, "Hmmmm, this looks like something." Wanda and I looked at the small brown-tarnish stone and could not see anything unusual at all. At the next Rock Club meeting she said, "I want to show you what was on that stone." It was a worm jaw with teeth! It was a very nice and unusual specimen.

We drove together to the Fossilmania Show in Glen Rose, TX. We collected fossils at various places along the way. We arrived at the show and set up our booths. Each evening she would say, "We need to get up early to do some fossil collecting before the show opens." We sat the alarm to get up early, ate breakfast, and drove to a collecting site, parked and waited until the sun came up enough to see the fossils. Now that is a love of fossils.

Another time we stayed with friends Helen and Cecil Menshew after the Fossilmania Show. It rained hard every day and the temperature dropped. But, we donned heavy coats that Helen had collected and went out

anyway. We were in a large road cut and the wind was blowing hard and rain pouring. Each of us would periodically go to the car to warm up except Margaret. Finally all but Margaret were in the car at the same time. She came down and said, "I guess you are waiting on me." We said, "No".

"We were just frozen." She said, " I hate to do that to you, but I'm not cold and I'm ready to go if everyone else is ready to go." She sat in the car and Wanda reached over and touched her hands and they were as warm as if she had not been outside; but in a nice warm house. She said. "I get so excited finding fossils that I don't think about the weather or anything else. I love fossil collecting"

We don't think we have ever met anyone who loved fossils as much as she did, or knew as much about them either. She was always studying, wanting to learn more. She was an amateur in name only because in our minds she was a professional. There are many more stories of this type and we enjoyed them with her.

George Aldred

President, The Lawrence County Rock Club, Inc.

President, The Indiana Society of Paleontology

Indiana Assistant State Director for Midwest Federation.